

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. 2003-NM-122-AD; Amendment 39-13497; AD 2004-05-03]**

**RIN 2120-AA64**

**Airworthiness Directives; McDonnell Douglas Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), and DC-9-87 (MD-87) Airplanes; Model MD-88 Airplanes; and Model MD-90-30 Airplanes**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule; request for comments.

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**SUMMARY:** This amendment adopts a new airworthiness directive (AD) that is applicable to certain McDonnell Douglas Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), and DC-9-87 (MD-87) airplanes; Model MD-88 airplanes, and Model MD-90-30 airplanes. This action requires repetitive inspections to detect cracking of the shock strut cylinders of the left and right main landing gears (MLG), and replacement of any cracked shock strut cylinder. This action is necessary to prevent failure of the shock strut cylinders of the MLGs due to cracking, which could result in collapse of the MLGs and consequent reduced controllability during landing. This action is intended to address the identified unsafe condition.

**DATES:** Effective March 15, 2004.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of March 15, 2004.

Comments for inclusion in the Rules Docket must be received on or before April 27, 2004.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2003-NM-122-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9 a.m. and 3 p.m., Monday through Friday, except Federal holidays. Comments may be submitted via fax to (425) 227-1232. Comments may also be sent via the Internet using the following address: 9-anm-iarcomment@faa.gov. Comments sent via fax or the Internet must contain "Docket No. 2003-NM-122-AD" in the subject line and need not be submitted in triplicate. Comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 or 2000 or ASCII text.

The service information referenced in this AD may be obtained from Boeing Commercial Airplanes, Long Beach Division, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Data and Service Management, Dept. C1-L5A (D800-0024). This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Mike S. Lee, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5325; fax (562) 627-5210.

**SUPPLEMENTARY INFORMATION:** Five operators of McDonnell Douglas Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), DC-9-87 (MD-87), and Model MD-88 airplanes reported instances of a shock strut cylinder of a main landing gear (MLG) fracturing, resulting in the MLG collapse during landing roll out. The airplanes had a shock strut cylinder of the MLG that fractured after accumulating between a total of 6,386 and 28,100 landings. The fractures began at cracks on the outer surface of the cylinders. The cracks were created by high stresses from vibration that can occur during airplane braking. Failure of the shock strut cylinders of the MLGs due to cracking could lead to collapse of the MLGs and consequent reduced controllability of the airplane during landing.

### **Similar Condition Exists on Other Models**

The shock strut cylinders on certain McDonnell Douglas Model MD-90-30 airplanes are identical to those on the affected Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), and DC-9-87 (MD-87) airplanes; and Model MD-88 airplanes. Therefore, those Model MD-90-30 airplanes may be subject to the unsafe condition due to exchanging a shock strut cylinder of a MLG from an affected airplane.

### **Related Rulemaking**

AD 99-06-13, amendment 39-11077 (64 FR 13330, March 18, 1999), applicable to certain McDonnell Douglas Model DC-9-80 series airplanes; and Model MD-88 airplanes, requires repetitive inspections to detect fatigue cracking of the shock strut cylinder of the MLG and replacement of any cracked shock strut cylinder with a serviceable part. That AD references McDonnell Douglas Alert Service Bulletin MD80-32A286, Revision 03, dated May 28, 1998, as the applicable source of service information.

AD 96-01-09, amendment 39-9485 (61 FR 2407, January 26, 1996), applicable to certain McDonnell Douglas Model DC-9-80 series airplanes and Model MD-88 airplanes, requires installation of hydraulic brake line restrictors on the MLG, and modification of the hydraulic damper assembly of the MLG. That AD references McDonnell Douglas Service Bulletins MD80-32-276, dated March 31, 1995, and Revision 1, dated October 17, 1995; and MD80-32-278, dated March 31, 1995, and Revision 1, dated September 6, 1995; as the applicable sources of service information.

### **Explanation of Relevant Service Information**

The FAA has reviewed and approved Boeing Alert Service Bulletin MD80-32A344, Revision 2, dated January 28, 2004, for McDonnell Douglas Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), DC-9-87 (MD-87) airplanes; and Model MD-88 airplanes; and Boeing Alert Service Bulletin MD90-32A059, dated January 28, 2004, for McDonnell Douglas Model MD-90-30

airplanes. These alert service bulletins specify verification of airplane records to determine service history of the shock strut cylinders of the MLGs. These alert service bulletins describe procedures for repetitive inspections (including performing fluorescent dye penetrant and fluorescent dry particle non-destructive testing) to detect cracking of the shock strut cylinders of the left and right MLGs, and replacement of any cracked shock strut cylinder with a new or serviceable part. Additionally, these alert service bulletins describe certain related investigative actions (such as chemically removing cadmium coating, and repeating the fluorescent dye penetrant and fluorescent magnetic particle non-destructive test inspections, if necessary).

Accomplishment of the actions specified in the alert service bulletins is intended to adequately address the identified unsafe condition.

### **Explanation of the Requirements of the Rule**

Since an unsafe condition has been identified that is likely to exist or develop on other airplanes of the same type design registered in the United States, this AD is being issued to prevent failure of the shock strut cylinders of the MLGs due to cracking, which could result in collapse of the MLG and consequent reduced controllability during landing. This AD requires repetitive inspections to detect cracking of the shock strut cylinders of the left and right MLGs, and replacement of any cracked shock strut cylinder with a new or serviceable part. This AD also requires that, if a replacement shock strut cylinder is not new, the service history of the shock strut cylinder determines the applicability by Group definition in the applicable service bulletin described previously. This AD requires accomplishment of the actions specified in the alert service bulletins described previously, except as discussed below.

### **Differences Between the Service Bulletins and the Airworthiness Directive**

Although Boeing Alert Service Bulletin MD80-32A344, Revision 2, dated January 28, 2004, specifies that McDonnell Douglas Alert Service Bulletin MD80-32A286, Revision 03, dated May 28, 1998, be accomplished prior to Boeing Alert Service Bulletin MD80-32A344, Revision 2, this AD does not require that action. As described in the "Related Rulemaking" section, accomplishment of Boeing Alert Service Bulletin MD80-32A286, Revision 03, is already required by AD 99-06-13.

### **Determination of Rule's Effective Date**

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

### **Comments Invited**

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption ADDRESSES. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the AD is being requested.
- Include justification (e.g., reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2003-NM-122-AD." The postcard will be date stamped and returned to the commenter.

## **Regulatory Impact**

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. Section 39.13 is amended by adding the following new airworthiness directive:

# AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "www.faa.gov"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2004-05-03 McDonnell Douglas:** Amendment 39-13497. Docket 2003-NM-122-AD.

**Applicability:** Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), and DC-9-87 (MD-87) airplanes; and Model MD-88 airplanes; as listed in Boeing Alert Service Bulletin MD80-32A344, Revision 2, dated January 28, 2004; and Model MD-90-30 airplanes, as listed in Boeing Alert Service Bulletin MD90-32A059, dated January 28, 2004; certificated in any category.

**Compliance:** Required as indicated, unless accomplished previously.

To prevent failure of the shock strut cylinders of the main landing gears (MLG) due to cracking, which could result in collapse of the MLG and consequent reduced controllability of the airplane during landing; accomplish the following:

## Service Bulletin Reference

(a) The term "service bulletin," as used in this AD, means the Accomplishment Instructions of the following service bulletins, as applicable:

(1) For Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), and DC-9-87 (MD-87) airplanes; and Model MD-88 airplanes: Boeing Alert Service Bulletin MD80-32A344, Revision 2, dated January 28, 2004.

(2) For Model MD-90-30 airplanes: Boeing Alert Service Bulletin MD90-32A059, dated January 28, 2004.

## Records Verification

(b) For Group 1 airplanes as defined in the applicable service bulletin: Within 450 landings or 90 days after the effective date of this AD, whichever occurs first, perform a verification of airplane records to determine in which Group the airplane is specified (as defined in the applicable service bulletin). Per the applicable service bulletin, this verification is based on the service history of the shock strut cylinder of the MLG.

(1) If it can be positively verified from airplane records that the airplane is identified as a Group 2 airplane, per the applicable service bulletin, no inspections are required on that airplane.

(2) If it cannot be positively verified from airplane records that the airplane is identified as a Group 2 airplane, per the applicable service bulletin, the airplane is a Group 3 airplane, and the requirements of paragraph (c) of this AD must be accomplished at the time specified in paragraph (c) of this AD.

## **Inspections**

(c) For Group 3 airplanes, as defined in the applicable service bulletin: Within 450 landings or 90 days after the effective date of this AD, whichever occurs first, do fluorescent dye penetrant and fluorescent magnetic particle non-destructive testing (NDT) inspections to detect cracking of the shock strut cylinders on the MLGs per the applicable service bulletin. Repeat the inspections of each shock strut cylinder thereafter at intervals not to exceed 450 landings on the shock strut cylinder.

## **Corrective Action**

(d) For Group 3 airplanes as defined in the applicable service bulletin: Do the requirements of paragraph (d)(1), (d)(2), or (d)(3) of this AD at the times specified, per the applicable service bulletin.

(1) If a crack indication is not found by the inspections done per paragraph (c) of this AD, perform repetitive inspections as specified in paragraph (c) of this AD.

(2) If a crack indication is found, prior to further flight, do related investigative actions per the applicable service bulletin. If cracking is not confirmed, perform repetitive inspections as specified in paragraph (c) of this AD.

(3) If any cracking is confirmed per the investigative actions done in paragraph (d)(2) of this AD, prior to further flight, do paragraph (d)(3)(i) or (d)(3)(ii) of this AD.

(i) Replace the cracked shock strut cylinder with a serviceable shock strut cylinder, and do paragraph (b) of this AD.

(ii) Replace the affected left or right shock strut cylinder with a new shock strut cylinder, which constitutes terminating action for the repetitive inspection requirement in paragraph (c) of this AD for that shock strut cylinder.

## **Credit for Previous Service Bulletin Revision**

(e) For Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), and DC-9-87 (MD-87) airplanes; and Model MD-88 airplanes: Accomplishment of the requirements of this AD prior to the effective date of this AD per Boeing Alert Service Bulletin MD80-32A344, dated March 31, 2003; or Boeing Alert Service Bulletin MD80-32A344, Revision 1, dated December 17, 2003; is considered acceptable for compliance with the initial inspection required in paragraph (c) of this AD, and/or replacement actions required by paragraph (d) of this AD, as applicable. The repetitive inspection interval remains 450 landings for the repetitive inspections.

## **Parts Installation**

(f) As of the effective date of this AD, no person shall install on any airplane a shock strut cylinder of the MLG unless that part has been inspected and found to be crack-free, in accordance with the applicable service bulletin.

## **Alternative Methods of Compliance**

(g) In accordance with 14 CFR 39.19, the Manager, Los Angeles Aircraft Certification Office, FAA, is authorized to approve alternative methods of compliance (AMOCs) for this AD.

**Note 1:** Information concerning the existence of approved AMOCs for this AD, if any, may be obtained from the Los Angeles ACO.

## **Incorporation by Reference**

(h) Unless otherwise specified in this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin MD80-32A344, Revision 2, dated January 28, 2004; or Boeing Alert Service Bulletin MD90-32A059, dated January 28, 2004; as applicable. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Boeing Commercial Airplanes, Long Beach Division, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Data and Service Management, Dept. C1-L5A (D800-0024). Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

## **Effective Date**

(i) This amendment becomes effective on March 15, 2004.

Issued in Renton, Washington, on February 23, 2004.  
Ali Bahrami,  
Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.  
[FR Doc. 04-4475 Filed 2-26-04; 8:45 am]  
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